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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/568,972

02/22/2006

Tsutomu Fukuda

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09/24/2008

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

GREENE, JASON M

ART UNIT

PAPER NUMBER

1797

NOTIFICATION DATE

DELIVERY MODE

09/24/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/568,972	<b>Applicant(s)</b> FUKUDA ET AL.	
	<b>Examiner</b> Jason M. Greene	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/22/06; 4/10/06; 10/20/06; 8/14/07</u> .                     | 6) <input type="checkbox"/> Other: ____.                          |



## **DETAILED ACTION**

### ***Specification***

1. The abstract of the disclosure is objected to because it is not limited to one paragraph in length. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 6, as it depends from claim 1, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagai et al. (US 5,846,276).

Nagai et al. discloses a honeycomb filter (1) for cleaning an exhaust gas which is a honeycomb filter for removing solid particles containing carbon as their main component in an exhaust gas, wherein the material for the honeycomb filter is an aluminum titanate sintered product obtained by firing at 1450 to 1550 °C a raw material mixture comprising 100 parts by mass of a mixture (component X) comprising TiO<sub>2</sub> and Al<sub>2</sub>O<sub>3</sub> in an equal molar ratio (50/50) and 1 to 5 parts by mass of MgO (see Run Nos. 5,

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6, 8, 10 and 11 in Table 4 at col. 16), wherein the honeycomb filter is accommodated in a can (housing) and is used for cleaning an exhaust gas of an automobile having a diesel engine in Figs. 1-16, col. 1, lines 11-18 and col. 16, line 36 to col. 17, line 64.

4. Claim 4 is rejected under 35 U.S.C. 102(b) as being anticipated by Nagai et al. (US 5,846,276).

Nagai et al. discloses a method for producing a honeycomb filter (1) for cleaning an exhaust gas comprising preparing a mixture comprising 100 parts by mass of a mixture (component X) comprising  $\text{TiO}_2$  and  $\text{Al}_2\text{O}_3$  in an equal molar ratio (50/50) and 1 to 5 parts by mass of  $\text{MgO}$  (see Run Nos. 5, 6, 8, 10 and 11 in Table 4 at col. 16), adding molding assistants to the mixture (e.g. polymeric ester), followed by kneading to plasticize the mixture to make it extrusion-processable, extrusion processing it into a honeycomb structure, and firing at 1450 to 1550 °C in Figs. 1-16, col. 1, lines 11-18 and col. 16, line 36 to col. 18, line 58.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 3 and 6, as it depends from claim 3, are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai et al. (US 5,846,276) in view of Beall et al. (US 7,001,861 B2)

Nagai et al. teaches the honeycomb filter having a wall thickness of 0.4 mm (see col. 4, lines 57-60), the porosity of the partition walls being 40% (see col. 19, lines 44-48) and the thermal expansion coefficient being less than  $1.0 \times 10^{-6} \text{K}^{-1}$  (see Run Nos. 5, 6, 8, 10 and 11 in Table 5 at col. 17), but does not explicitly recite a cell density of 15 to 93 cells/cm<sup>2</sup>.

Beall et al. discloses a similar aluminum titanate honeycomb filter having a cell density of 200 cells/in<sup>2</sup> (31 cells/cm<sup>2</sup>) in col. 6, lines 40-59.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the cell density of Beall et al. into the honeycomb filter of Nagai et al. in that the cell density can be selected as a matter of design choice depending on the system flow rate, required filtration area, desired filtration efficiency, etc.

### ***Double Patenting***

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29

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USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 2, 5 and 6, as it depends from claim 2, are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Nagai et al. (US 5,846,276) in view of claims 1, 2 and 4 of U.S. Patent No. 7,148,168 B2.

Nagai et al. does not disclose component Y being a mixture comprising (1) an alkali feldspar having the recited formula and (2) the oxide of a spinel structure containing Mg, MgO, or an Mg-containing compound that will be converted to Mg by firing.

Claims 1, 2 and 4 of the '168 patent claim using a combination of (1) the claimed alkali feldspar and (2) the oxide of a spinel structure containing Mg, MgO, or MgCO<sub>3</sub> to improve the mechanical strength of aluminum titanate

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the claimed combination of the '168 patent into the aluminum titanate honeycomb filter of Nagai et al. to improve the mechanical strength of the aluminum titanate.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Oda et al., Ellison et al. and Fukuda et al. '552 references disclose similar honeycomb filters.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571) 272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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Jason M. Greene  
Primary Examiner  
Art Unit 1797

/Jason M. Greene/  
9/18/08

jmg  
September 18, 2008